

REMARKS/ARGUMENTS

In the Claims

Claims 1 and 4 are pending. Claim 1 has been amended to correct an obvious clerical error, which the examiner has noted. This amendment does not necessitate a new search as its meaning was already apparent and the substance of the claim is unchanged. No new matter is added. Entry and allowance of the claims is respectfully requested.

Request for reconsideration

The rejection of claims 1 and 4 under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,354,628 to Watanabe et al. (*Watanabe US*), in view of JP 2006-020704 by Watanabe et al. (*Watanabe JP*), is respectfully traversed.

Claims 1 and 4 recite, *inter alia*, an annularly shaped metal plate. As explained in the response to the Office Action dated September 21, 2010, this metal plate is a metal material in an annular shape. As illustrated in the same response, the annular metal plate can be preformed such that the protrusion is out of the plane of the plate.

In contrast to this, newly cited *Watanabe US* discloses the use of a resin ring (5), which “can be made of any resin which is resistant to the oxyhalide which is used in the electrolyte liquid.” See col. 3, ln. 22-36. *Watanabe US* teaches that its cell has an improved actuation-reliability of an explosion-proof mechanism. See col. 1, ln. 11-12. *Watanabe US* teaches that when a cell made without the resinous ring experiences a rapid temperature increase, *e.g.*, falls into a solder bath, explodes more frequently than the cell with the resinous ring (which does not explode). See col. 5, ln. 18-40. Although the Office asserts that exchanging the resinous material with metal would be obvious, this assertion does not

consider the enhanced conductivity of metal versus plastic. Apprised of this, a person of ordinary skill in the art would have no obvious motivation to place a higher heat conducting material into the base of the battery of *Watanabe US* relying on its teachings as a whole. It appears that this rejection merely uses the instant claims as a roadmap, and improperly concludes obviousness without considering the full disclosure of the references cited. For at least this reason, the claims are not obvious over the cited references.

In an attempt to remedy the deficiency regarding the material of the plate, the Office relies on the disclosure of *Watanabe JP*, previously cited. However, *Watanabe JP* discloses a porous metal body (5), which is not annular in shape. *See abstract and paragraphs [0006], [0007], [0012], [0027], and [0029]*. There is no motivation provided in either reference or in the art to take the porous metal body and deform it into an annular shape, or to take the resin ring and make it a porous metal material. For at least this reasons, the claims are not obvious over the combination of references cited.

Furthermore, the Office cites the protrusion of the can in claim 4, but fails to concede that the protrusion of the plate is not shown for claim 1. For at least this reason, the claim 1 is not obvious over the cited references.

Watanabe US corresponds to JP6-68863A, which is described in the specification of the instant application. *See paragraph [0009]* of the publication thereof. Therein it is described that *Watanabe US* provides a measure to deal with the disruption of the explosion-proof valve before it works, where the battery falls into a soldering pot, to thereby prevent explosion. It is also noted that the resinous ring serves to avoid heating of the can during

welding. *Ibid.* However, this fluororesin forms lithium fluoride at its interface with the lithium, used as a negative pole action substance.

Additionally, from a structural and manufacturing standpoint, the resinous ring should be inserted into the bottom of the battery can before the negative pole action substance can be press-bonded to an inner surface of the can. This suffers the disadvantage that vibration and static electricity generated during the transferring of the resinous ring after insertion into the battery can may cause disorder or slanting of the placement of the resinous ring. Such a feature is not preferable for mass production of batteries.

Applicants have solved problems inherent in *Watanabe US*'s approach and provided a battery which can be mass produced in an improved manner. For these additional reasons the claims are not obvious over the combination of references cited.

The 2010 *Examination Guidelines Update* provides (emphasis added):

In view of the cases decided since *KSR*, one situation when it is important to identify a reason to combine known elements in a known manner to obtain predictable results is when the combination requires a greater expenditure of time, effort, or resources than the prior art teachings. Even though the components are known, the combining step is technically feasible, and the result is predictable, the claimed invention may nevertheless be nonobvious when the combining step involves such additional effort that no one of ordinary skill would have undertaken it without a recognized reason to do so. *See 75 Fed. Reg. 53643*, at 53646, col. 2 §A.

The Office has not provided a reason why a person skilled in the art would exchange the resinous ring for the claimed annularly shaped metal plate, or for the cited porous metal body. For this additional reason, the claims are not obvious over the cited references.

Furthermore, as held by the Federal Circuit in *In re Omeprazole*, even if there is no evidence of undue technical hurdles or lack of reasonable expectation of success, claims are not obvious where the modification is not recognized in the art, even if the modification can be done. *See Example 4 of 75 Fed. Reg. 53643*, at 53646, col. 3, bottom paragraph.

For the above reasons, the rejection of the claims as obvious over the combination of references cited is unsustainable.

Applicants respectfully request withdrawal and passage of this case to issue.

Respectfully submitted,

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